

Cardiac Resuscitation Trolley

A Life Saving Device

Mrs. AMRIT KAUR MALHOTRA

THE term cardiac arrest is synonymous with the term sudden death, when a person stops breathing and heart stops beating. This is an emergency which may occur anywhere, in the home, on the roadside and in the hospital. By starting cardio-pulmonary resuscitation immediately the precious life can be saved. In the hospital setting the nurse is the first person to diagnose the problem of cardiac arrest in a patient. She starts the cardiac massage, calls for medical help, supplies emergency drugs and equipment for resuscitation procedure.

Most of the time, the nurse

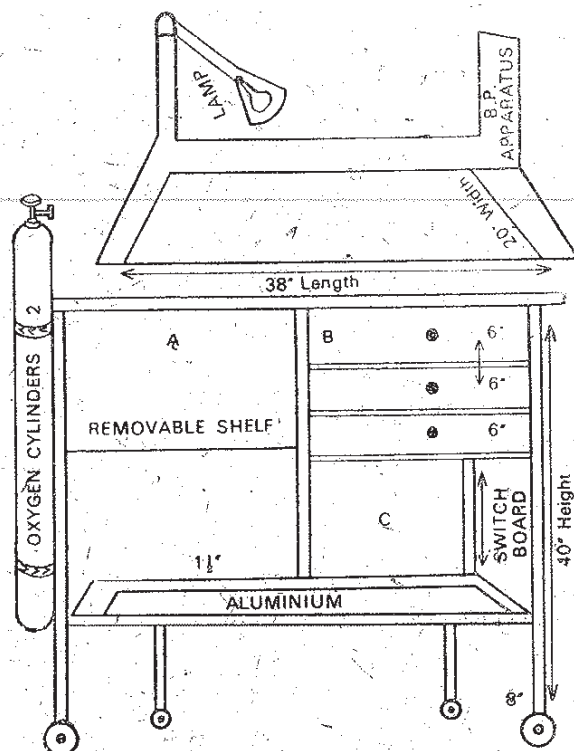
wastes time and energy in collecting the equipment and medicines, by the time the valuable life is either lost or suffers irreversible brain damage, so it becomes mandatory for the hospital staff to be equipped adequately to meet the urgent need of resuscitation and the model of this trolley is equipped with all the requirements.

The specifications for the fabrication of the trolley are as follow :

1. Height 40", length 38", width 20" caster 3".

2. Frame is of steel, shelves of aluminium and drawers wooden.

RESUSCITATION TROLLEY



3. At the top shelf on the left handside, light with goose neck connection and on the right hand side sphygmomanometer (B.P. Apparatus).

4. On the right hand side of the trolley grip for two oxygen cylinders and on the left hand side switch board with 15 Amp and 5 Amp, six power plugs.

5. At the back of the trolley hooks for the cardiac board (hard) which is 3 feet by 2 feet.

6. Suction machine to be placed at the bottom shelf "C".

7. Defibrillator and cardiac monitor on shelf "A".

8. Three drawers 'B' shall contain the following equipment and drugs.

—Ambu bag

—Intravenous sets four and two cut down sets (sterile).

—Syringes with needles of various sizes

20 cc (4)

10 cc (5)

5 cc (5)

2 cc (5)

Intra cardiac needles—2.

—Endotrachea ltubes of assorted sizes alongwith styletts.

Mouth gag two.

Laryngoscope.

Suction catheters of various sizes.

Tourmquete

—Dextrose 5%, isotonic saline sodium lactate and distilled water

Sodium bicarbonate 2.80% 500 ml

Calcium Chloride 10%

Non-adrenaline 1 : 20000

Procaine hydrochloride 1%

Adrenaline

Calcium gluconate (I.V.)

Xylecaine 1% solution (I.V.) and

Aramine 200 mg. diluted in

solution of 500 ml. 5% dextrose.

Antiseptic lotion, sterile dressing, gauze cotton, bandages and adhesive tape.

Wheels of the trolley should be large to maintain balance.

Patient goes into cardiac arrest when the heart is not capable to pump blood to meet the needs of the body. The following signs will assist the nurse to start cardiac resuscitation at once i.e. cessation of breathing, absence of carotid and femoral pulse, unconsciousness, dilated pupils, pale skin and lips and deathly look. On diagnosing cardiac arrest, shout for help and start immediate mouth to mouth breathing.

Be sure that the airway is open and have the person on the hard surface.

Step I is to open the airway immediately by lifting the back of the neck and tilting the head backward maximally, pull the jaw to confirm the clarity of the airways.

II : Observe the movements of the chest, feel and listen for air flow at the mouth and nose.

III : Pinch the nose of the patient and the rescuer opens his mouth widely, takes a deep breath and closes the mouth of the victim tightly with his on her lips and gives three mouthful puffs at a time and then moves his mouth away to let the patient breathe out passively (for children and infants less force and small puffs are used).

After three deep lung inflations the carotid pulse should be palpated and clear the airway of any debris or foreign matter is visible at the mouth. Due to this ventilation meets obstruction. The cycle of blowing into the lungs and allowing air to be sent is repeated once every five seconds and 12 times a minute. Pulmonary resuscitation is not done with the following cases

i.e. severe pulmonary respiratory infection, in malignancy, patient in the terminal stage of fatal disease, and patient reasonably known to have been dead for over ten minutes.

Oxygen in the lung is beneficial if it is transported from the lungs to the heart and then to the tissues of the body. So external cardiac compression is performed with artificial ventilation.

Nurse is to stand on the right side of the patient and place the heel of one hand on the lower one third of sternum just above the xiphoid process. Long axis of the heel is to be with the long axis of sternum. With the heel of the other hand on top of it apply firm vertical pressure to force the sternum downward by 1 to 2 inches (less for children). There should be no flexion on elbow and pressure should come from the shoulders. For the adults one stroke per second and for the children 90 to 100 strokes per minute.

Take pause after fifteen sternal compressions and alternate with three to five deep lung inflations. If two persons are available then five cardiac compressions and one mouth to mouth breathing alternately. Check carotid pulse after one minute and every five minutes.

Carry out this procedure till the medical aid has arrived or the following clues are present, i.e. constriction of pupils, feeling of carotid and femoral pulse, breathing that begins spontaneously, movement and struggling, and decreased cyanosis. If pupils still dilated after forty minutes of cardio-pulmonary resuscitation process then stop it. (In case of chest surgery or stab wounds of chest and fracture ribs cardiac compression is contraindicated.

The above procedure is an emergency treatment which will be followed with specific medical therapy and post-resuscitation care, where

the readily available cardiac resuscitation trolley will be of great benefit to save the life.

My thanks go to Dr. Harivir Singh, Head of the Anaesthesia Deptt. and Prof. Y.S. Mehra, Medical Superintendent of Nehru Hospital for the guidance and assistance in developing the model of the trolley which is now being fabricated in the Workshop of Post-Graduate Institute, Chandigarh, for emergency ward of Nehru Hospital.

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